GENERATOR, FUNCTION

GE7NP-B

1.	GENERAL This procurement requires a single-channel function generator with arbitrary waveform capability.

2.	CLASSIFICATION Type II, Class 5, Style E and Color R in accordance with MIL-T-28800 for shipboard applications.

3.	OPERATIONAL REQUIREMENTS The equipment shall generate sine, square, triangular, ramp, noise, and arbitrary waveforms as defined and specified below.

3.1	Arbitrary waveforms. The equipment shall allow the operator to down-load and playback arbitrary waveforms via RS-232 and IEEE-488 into at least 16k points of internal memory.

3.1.1	Waveform length: 8 to 16k points

3.1.2	Vertical resolution: 12 bits minimum

3.1.3	Sample rate: 40M samples per second

3.1.4	Waveform memory.: 16k points minimum

3.2	Standard Waveforms. Standard waveforms shall be in compliance with Table I.

TABLE I. Standard Waveform Specifications

Waveform	Freq.(resolution: 10 mHz)	Distortion	Rise/Fall
Sine	0.1 mHz to 15 MHz	-35 dBc for spurious and harmonics	-
Square	0.1 mHz to 15 MHz	2% overshoot, 1% +5 ns assymetry	25 ns
Triangle, Ramp	0.1 mHz to 100 kHz	0.1% linearity	50 ns
Noise	dc to 10 MHz	-	-

3.3   Output level Specifications apply to a nominal 50 ohm input impedance.

3.3.1   Amplitude: 50 mV to 10V peak to peak.

3.3.2   Accuracy: ±1% of setting for a 1 kHz sinewave.

3.3.3   Flatness: ±2% relative to a 1 kHz sinewave.

3.3.4   DC offset: ±5V. Accuracy: ±2% of setting + 3 mV. Resolution: 10 mV.

3.4   Sweep characteristics

3.4.1   Sweep types. Linear and logarithmic.

3.4.2   Sweep spans. 10 mHz to 15 MHz for sine and square waveforms and 10
           mHz to 100 kHz for triangle and ramp waveforms.

3.4.3   Sweep speeds. 1 ms to 500s.

3.4.4   Trigger Source. Single, Internal, or External

3.5   <u>Timebase</u>. Accuracy: 10 ppm. Temperature coefficient: 2 ppm/°C outside of 20 to 30°C. Aging: 10 ppm/yr.

4.   <u>GENERAL REQUIREMENTS</u>

4.1   <u>Power Source</u>   MIL-T-28800 nominal power source requirements are invoked. Maximum power consumption: 50W.

4.3   <u>Lithium Batteries</u>   Per MIL-T-28800, lithium batteries are prohibited without prior authorization. A request for approval for the use of lithium batteries, including those encapsulated in integrated circuits, shall be submitted to the procuring activity at the time of submission of proposals. Approval shall apply only to the specific model proposed.

4.2   <u>Weight</u>   5 kg (11 lb) maximum.

4.4   <u>Remote Control</u>   The equipment shall be provided with a digital interface in accordance with MIL-T-28800.